

24. The device of claim 22, further comprising a differential pressure source for forcing fluid in the first channel in the body to flow through the inlet port of the vessel and into the reaction chamber.

25. The device of claim 22, wherein the vessel includes:

- i) a rigid frame defining side walls of the reaction chamber; and
- ii) first and second polymeric films attached to opposite sides of the rigid frame to form opposing major walls of the reaction chamber.

26. The device of claim 25, wherein each of the major walls is sufficiently flexible to conform to a respective thermal surface.

27. The device of claim 25, wherein at least two of the side walls are optically transmissive and angularly offset from each other.

28. The device of claim 22, wherein the ratio of the width of the chamber to the thickness of the chamber is at least 4:1, and wherein the chamber has a thickness less than 2 mm.

29. The device of claim 22, wherein the body further includes a mixing chamber for mixing a fluid sample with amplification reagents, the mixing chamber being connected to the inlet port of the vessel via the first channel.

30. The device of claim 22, wherein the body has formed therein:

- i) a sample flow path; and
- ii) a separation region in the sample flow path for separating a desired analyte from a fluid sample, the separation region being connected to the inlet port of the vessel via the first channel.

31. The device of claim 30, wherein the separation region in the body comprises:

- a lysing chamber in the sample flow path for lysing cells or viruses in the sample to release material therefrom; and
- at least one solid support positioned in the lysing chamber for capturing the cells or viruses to be lysed.

32. The device of claim 22, wherein the vessel includes a plurality of walls defining the reaction chamber, at least one of the walls comprising a flexible sheet or film, and the device further comprises:

- at least one thermal surface for contacting the sheet or film;
- means for increasing the pressure in the reaction chamber, wherein the pressure increase in the chamber is sufficient to force the sheet or film to conform to the thermal surface; and
- at least one thermal element for heating or cooling the surface to induce a temperature change within the chamber.

33. The device of claim 1, wherein the vessel includes two opposing major walls and sidewalls connecting the major walls to each other to form the reaction chamber, at least two of the side walls are optically transmissive and angularly offset from each other, and the device further comprises an optics system having at least one light source for transmitting light to the reaction chamber through a first one of the optically transmissive side walls and having at least one detector for detecting light emitted from the chamber through a second one of the optically transmissive side walls.

34. A device for conducting a chemical reaction, the device comprising:

- a body having at least one flow path formed therein; and
- a reaction vessel extending from the body, the vessel comprising:
  - a rigid frame defining side walls of a reaction chamber;

ii) at least one polymeric film attached to the rigid frame to form a major wall of the reaction chamber; and

iii) an inlet port for adding fluid to the reaction chamber;  
wherein the inlet port of the vessel is connected to the at least one flow path in the body.

35. The device of claim 34, wherein the vessel includes first and second flexible sheets attached to opposite sides of the rigid frame to form two opposing major walls of the reaction chamber.

36. The device of claim 34, wherein the major wall is sufficiently flexible to conform to a thermal surface.

37. The device of claim 34, wherein at least two of the side walls are optically transmissive and angularly offset from each other by about 90°.

38. The device of claim 34, wherein the ratio of the width of the chamber to the thickness of the chamber is at least 4:1, and wherein the chamber has a thickness in the range of 0.5 to 2 mm.

39. The device of claim 34, wherein the body has formed therein:

- i) a sample flow path;
- ii) a separation region in the sample flow path for separating a desired analyte from a fluid sample; and
- iii) an analyte flow path connecting the separation region to the inlet port of the vessel.

40. The device of claim 39, wherein the separation region in the body comprises:

- a) a lysing chamber in the sample flow path for lysing cells or viruses in the

sample to release material therefrom; and

- b) at least one solid support positioned in the lysing chamber for capturing the cells or viruses to be lysed.

41. The device of claim 34, further comprising:

- a) at least one thermal surface for contacting the major wall of the reaction chamber;
- b) means for increasing the pressure in the reaction chamber, wherein the pressure increase in the chamber is sufficient to force the major wall to conform to the thermal surface; and
- c) at least one thermal element for heating or cooling the surface to induce a temperature change within the chamber.

42. The device of claim 34, wherein at least two of the side walls of the reaction chamber are optically transmissive and angularly offset from each other, and wherein the device further comprises an optics system having at least one light source for transmitting light to the reaction chamber through a first one of the optically transmissive side walls and having at least one detector for detecting light emitted from the chamber through a second one of the optically transmissive side walls.

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REMARKS

Regarding paragraph 1 of the last office action (post office address), applicants respectfully point out that page 1 of the Declaration filed Sept. 15, 2000 reads "As a below named joint inventor, each of us hereby declares as follows: My residence, post office address, and citizenship are as stated below next to my name".

Regarding the drawing objection listed in paragraph 2, Fig. 34 is actually correct but the applicant made a typographical error by accidentally typing "second